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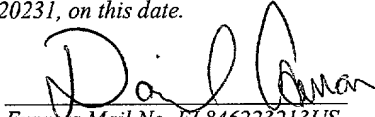
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ikeda et al.)
)
Serial No.)
)
Filed: February 12, 2002)
)
For: MAGNETIC THIN FILM,)
MAGNETIC THIN FILM)
FORMING METHOD, AND)
RECORDING HEAD)
)
Art Unit:)

I hereby certify that this paper is being deposited with the United States Postal Service as EXPRESS MAIL in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on this date.

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Date


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PRELIMINARY AMENDMENT

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Prior to examination of this application and calculation of the filing fee,
please amend the application as follows:

In the Claims:

Please amend claims 1, 4 and 8 and add new claims 9 and 10 as follows:

1. (Amended) A magnetic thin film, characterized by being a polycrystalline film comprising:

Fe whose content is not less than 57.5 atomic% and not more than 94.5 atomic%;

one or more kinds of elements M selected from the element group of Al, B, Ga, Si, Ge, Y, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W and Rh, whose whole content is not less than 1 atomic% and not more than 15 atomic%;

N whose content is not less than 0.5 atomic% and not more than 10 atomic%; and

O whose content is not less than 1.5 atomic% and not more than 22.5 atomic%,

wherein N, M and O are included in a crystal phase of which main component is Fe.

4. (Amended) A recording head which has a coil generating a predetermined magnetic field and a soft magnetic member magnetized by the magnetic field generated from the coil and which magnetizes an external medium by the magnetic field generated by the coil and transmitted by the soft magnetic member, characterized in that

said soft magnetic member is a polycrystalline film comprising:

Fe whose content is not less than 57.5 atomic% and not more than 94.5 atomic%;

one or more kinds of elements M selected from the element group of Al, B, Ga, Si, Ge, Y, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W and Rh, whose whole content is not less than 1 atomic% and not more than 15 atomic%;

N whose content is not less than 0.5 atomic% and not more than 10 atomic%; and

O whose content is not less than 1.5 atomic% and not more than 22.5 atomic%,

wherein said soft magnetic member is a magnetic thin film in which N, M and O are included in a crystal phase of which main component is Fe.

8. (Amended) The magnetic thin film forming method according to claim 7, wherein during the formation of the magnetic thin film on said substrate, the temperature of said substrate is maintained at 200°C or less.

9. (New) The magnetic thin film according to claim 1, which substantially excludes a ceramics phase comprising one or more kinds of elements M selected from said element group and at least either N or O.

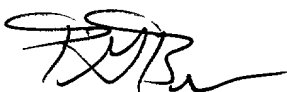
10. (New) The recording head according to claim 4, which substantially excludes a ceramics phase comprising one or more kinds of elements M selected from said element group and at least either N or O.

REMARKS

Applicants respectfully request these claims be considered with the examination of this application.

Respectfully submitted,

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By 

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 1, 4 and 8 were amended as follows:

1. (Amended) A magnetic thin film, characterized by being a polycrystalline film comprising:

Fe whose content is not less than 57.5 atomic% and not more than 94.5 atomic%;

one or more kinds of elements M selected from the element group of Al, B, Ga, Si, Ge, Y, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W and Rh, whose whole content is not less than 1 atomic% and not more than 15 atomic%;

N whose content is not less than 0.5 atomic% and not more than 10 atomic%; and

O whose content is not less than 1.5 atomic% and not more than 22.5 atomic%[.],

wherein N, M and O are included in a crystal phase of which main component is Fe.

4. (Amended) A recording head which has a coil generating a predetermined magnetic field and a soft magnetic member magnetized by the magnetic

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field generated from the coil and which magnetizes an external medium by the magnetic field generated by the coil and transmitted by the soft magnetic member, characterized in that

said soft magnetic member is a polycrystalline film comprising:

Fe whose content is not less than 57.5 atomic% and not more than 94.5 atomic%;

one or more kinds of elements M selected from the element group of Al, B, Ga, Si, Ge, Y, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W and Rh, whose whole content is not less than 1 atomic% and not more than 15 atomic%;

N whose content is not less than 0.5 atomic% and not more than 10 atomic%; and

O whose content is not less than 1.5 atomic% and not more than 22.5 atomic%[.],

wherein said soft magnetic member is a magnetic thin film in which N, M and O are included in a crystal phase of which main component is Fe.

8. (Amended) The magnetic thin film forming method according to claim 7, wherein during the formation of the magnetic thin film on said substrate [and after the film formation], the temperature of said substrate is maintained at 200°C or less.